SATELLITE INDUSTRY ASSOCIATION
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February 12, 2002

FILED ELECTRONICALLY

William F. Caton, Acting Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Review of Part 15 and Other Parts of the Commission's Rules,
ET Docket 01-278, RM-9375, RM-10051

Dear Mr. Caton:

The Satellite Industry Association ("SIA"),[1] pursuant to Section 1.415 of the Rules of the Federal Communications Commission (the "Commission"),[2] hereby submits this letter in response to the Notice of Proposed Rulemaking and Order (the "NPRM") released by the Commission on October 15, 2001, in the above-captioned matter.[3]

As the Commission describes in the NPRM, unlicensed consumer radar detectors are causing harmful interference into licensed satellite operations in the 11.7-

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1 SIA is a national trade association representing the leading U.S. satellite manufacturers, service providers, and launch service companies. SIA serves as an advocate for the U.S. commercial satellite industry on regulatory and policy issues common to its members. With member service companies providing a broad range of manufactured products and services, SIA represents the unified voice of the U.S. commercial satellite industry.

2 47 C.F.R. § 1.415.

3 Review of Part 15 and Other Parts of the Commission's Rules, Notice of Proposed Rulemaking and Order, FCC 01-290, ET Docket No. 01-278, RM-9375, RM-10051 (rel. Oct. 15, 2001) ("NPRM").

12.2 GHz band.[4] This constitutes a clear violation of the Commission's rules. Under Part 15, unlicensed devices are prohibited from causing harmful interference to licensed users of the bands in which they operate. All devices operating under Part 15 are required to cease operation in the event they cause interference into an authorized radio service.[5]

As a result of various exceptions in the Commission's rules, no quantitative emission limits apply to radar detectors and other receivers that operate above 960 MHz. As described in detail in the comments being filed today by SIA members, radar detectors emit power levels that are greatly in excess of Part 15 norms applicable to other kinds of unlicensed devices in the band, often within line-of-sight of satellite terminals. As the Commission proposes in the NPRM, rule changes are necessary to put a stop to the resulting harmful interference to authorized satellite operations.[6]

The primary satellite operations currently affected by radar detectors are Very Small Aperture Terminal ("VSAT") systems in the 11.7-12.2 GHz band. VSAT systems use easily-deployed and cost-effective earth station terminals for one-way and interactive communications via satellite. VSAT networks are used for a host of consumer, corporate and governmental applications. Corporations use VSATs for such things as data transmission, inventory management, point-of-sale data collection, credit-card validation and e-mail delivery. VSATs provide consumers a variety of services, including "pay-at-the-pump" gasoline and secure ATM withdrawals from banks throughout the United States. VSAT networks are also used extensively for rural telecommunications and distance learning. Many such systems are used for critical operations, such as tele-medicine, disaster recovery and law enforcement (particularly via portable "fly-away" systems).

Hundreds of thousands of VSAT terminals are currently deployed in the United States. VSAT service and manufacturing revenues are each in the hundreds of millions of dollars per year. The VSAT sector represents one of the fastest growing satellite markets. Both the number of VSAT networks and the number of terminals in those networks are growing at a rapid rate.

SIA members are filing separately data on the occurrence and impact of interference from radar detectors to their systems. It is clear from these reports that the problem is not isolated. On the contrary, radar detector interference is a chronic problem affecting many VSAT networks.

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4 NPRM, ¶ ¶ 10-14.

5 47 C.F.R. § 15.5(b).

6 NPRM, ¶ 1.

It is evident from SIA member comments, moreover, that the impact of radar detectors is not limited to VSAT networks. Rather, radar detectors have caused harmful interference to other satellite operations, including mission critical functions such as TT&C, for which the loss of a single antenna for even limited periods can have catastrophic consequences. This broader impact makes it even more imperative that the Commission take steps to rectify the problem.

Interference from radar detectors has very high costs to both satellite service providers and their customers. This interference disrupts the communications links on which many businesses and consumers rely every day. For example, radar detector interference disrupts business at gas stations by preventing credit card authorizations. Needless to say, the costs associated with identifying and resolving each interference complaint can be significant. Identifying the source of intermittent interference can require long-term monitoring and investigation.

In addition to the documented cases described in the SIA member reports, it must be assumed that there are many occurrences of interference that go unreported due to the intermittent nature of the interference and, in some cases, the intermittent use of the VSAT network. Customers may not even realize that such outages are caused by outside sources of interference, and are not the fault of the satellite provider.

SIA members have spent considerable resources studying this interference problem. These studies, which are described in detail in the individual comments of members, indicate that the interference threshold of many important VSAT operations is in the tens of micro-Volts per meter (even assuming sufficient off-axis isolation to avoid interference into the main beam). At the same time, it appears that at least some current radar detectors can emit at levels in the tens of thousands of micro-Volts per meter. As demonstrated in the comments of SIA members, a radar detector in an automobile passing by or parked near a VSAT terminal or other satellite earth station can easily break the satellite communications link.

The situation is intolerable to satellite operators and flatly inconsistent with Commission rules for Part 15 operation. SIA therefore urges the Commission to adopt emission limits on radar detectors sufficient to protect VSAT and other satellite operations in the 11.7-12.2 GHz band. Based on preliminary studies by SIA members to date, it appears that the limit must be at least as low as 30 □V/m, measured at 3 meters, in order to protect the more sensitive VSAT links. This provision would provide both the quantitative standard and administrative procedure needed to ensure radar detector compliance with the Part 15 obligation to cause no harmful interference to licensed operations.

In the NPRM, the Commission focused on interference caused by radar detectors into VSAT systems in the 11.7-12.2 GHz band. While this is the most problematic source of interference faced by VSAT systems from unlicensed devices at the present time, other kinds of Part 15 devices in this and other bands can pose a threat to VSAT and other satellite systems. The rapid proliferation of unlicensed devices is therefore of great concern to satellite operators.

Sirius Satellite Radio recently filed a Petition for Rulemaking concerning interference from Part 15 and Part 18 interference into DARS systems.[7] As noted in that Petition and the comments of SIA members in this proceeding, current Part 15 rules are failing to keep up with the changes in low-power technologies. There is therefore a need to revisit the operation of unlicensed devices in all of the satellite bands, in order to avoid repetition of the problems currently suffered by satellite services due to radar detectors.

For the above reasons, SIA urges the Commission to adopt limits to protect VSAT and other satellite systems in the 11.7-12.2 GHz band from radar detector emissions as expeditiously as possible, and to address comprehensively the issue of unlicensed emissions in satellite bands in a future proceeding.

Respectfully submitted,

Satellite Industry Association

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[7] Petition for Rulemaking on Revision of Part 15 and Part 18 of the Rules Regarding the Out-of-Band Emissions of Radio Frequency Devices, Sirius Satellite Radio, Inc., January 23, 2002.